

1 3 (cancelled).

1 4 (cancelled).

1 <sup>1</sup> 11. (currently amended) Methods for the production of mixed alcohols including the steps

2 of:

3 using a sulfided, nanosized transition metal catalyst selected from Group VI metals;

4 nanosizing the Group VI transition metal catalyst by selecting Group VI metals, and

5 mixtures thereof, and then nanosizing said Group VI metals and mixtures thereof to a mean

6 particle diameter [in the range of about 1 nm to] of about 100 nm ;

7 suspending the Group VI transition metal catalyst in a liquid to form a slurry; and

8 contacting said slurry with gases including carbon monoxide and hydrogen at a temperature in

9 the range of about 250° C to about 325° C and at a pressure in the range of about 500 psig to

10 about 3000 psig, to thereby produce mixed alcohols.

1 <sup>2</sup> 12. (original) The method of claim <sup>1</sup> 11 wherein the nanosized Group VI transition metal catalyst  
2 is sulfided prior to its use in producing mixed alcohols from gases including carbon monoxide  
3 and hydrogen.

1 <sup>3</sup> 13. (original) The method of claim <sup>1</sup> 11 wherein the nanosized Group VI transition metal  
2 catalysts are selected from Cr, Mo and W, and mixtures thereof.

1 <sup>4</sup> 14. (original) The method of claim <sup>2</sup> 12 wherein the nanosized Group VI transition metal  
2 catalysts, and mixtures thereof ~~of claim 3~~ are produced including the step of sulfiding said  
3 nanosized Group VI transition metal catalysts, and mixtures thereof.

1 <sup>5</sup> 15. (original) The method of claim <sup>4</sup> 14 wherein the nanosized Group VI transition metal  
2 catalysts, and mixtures thereof, are selected from Cr, Mo and W, and mixtures thereof.

1 16 (cancelled).